

DESCRIPTION OF A NEW SPECIES OF FISH (APOGON
EVERMANNI) FROM THE HAWAIIAN ISLANDS, WITH
NOTES ON OTHER SPECIES.

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A small collection of fishes from the market of Honolulu, lately received by the United States Bureau of Fisheries from Mr. E. L. Berndt, contains several specimens of interest, one species being new to science. The present paper contains the description of this species, with notes on some of the others.

APOGON EVERMANNI Jordan and Snyder, new species.

Head exclusive of opercular flap, $2\frac{2}{3}$ in the length; depth, $3\frac{1}{5}$; depth of caudal peduncle, $2\frac{2}{3}$ in head; eye, $3\frac{1}{2}$; snout, $3\frac{1}{2}$; maxillary, $1\frac{1}{2}$; interorbital space, $6\frac{1}{4}$; D. VI-I, 9; A. II, 8; pores in lateral line, 25.

The head is conspicuously large, snout pointed, mouth large, the maxillary extending to a point midway between pupil and posterior margin of orbit. The interorbital space is concave, viewed either from the side or from before, its width equal to that of the posterior edge of maxillary. Edge of suborbital and lower edge of preopercle with large, thin, membranous flaps; anterior edge of preopercle smooth; upper part of posterior edge finely serrated. Branchiostegals, 7. Teeth villiform, in broad bands on the jaws, a V-shaped patch on the vomer, and in narrow bands on the palatines. Gillrakers, 5+16, the length of the longest contained 3 times in longitudinal diameter of eye. Pseudobranchiæ present.

Head naked, except on interopercle, preopercle, and upper part of opercle, where there are a few large smooth scales. Scales of body ctenoid, the number in a longitudinal series immediately above the lateral line 54, between lateral line and spinous dorsal 3, between lateral line and anal 15. Lateral line complete, its curve closely following that of the dorsal contour of body; located on middle of caudal peduncle posteriorly.

Third and fourth dorsal spines longest, $2\frac{2}{3}$ in head; first and sixth of equal length, half as long as the third. A slight space between

dorsals, the spines when depressed just reaching base of second dorsal; spine of second dorsal measuring $3\frac{1}{6}$ in head, longest ray $1\frac{1}{2}$; distance between soft dorsal and base of caudal equal to width of space between anterior margin of eye and posterior edge of opercle. First anal spine minute, the second $3\frac{1}{2}$ in length of head; longest ray 2. Ventral reaching a point midway between anal opening and base of anal fin. Pectoral fin rather pointed, its tip reaching a vertical through middle of anal. Caudal forked.

In alcohol the color is very light (in life probably red), the body with five rather indistinct dark bands, none of which reach the ventral surface; the first on nape, second triangular in shape extending from base of spinous dorsal to near middle of body, third passing from base of second dorsal to a point near base of anal, the fourth located just behind the second dorsal, fifth at base of caudal; a narrow, dusky band passing from tip of snout to eye; a similar band from posterior margin of eye to edge of opercle.

A single specimen measuring about 142 mm., from the market at Honolulu. The condition of the tissues indicates that the example came from deep water. Type No. 51487, U. S. National Museum; collector, E. L. Berndt.

The species is named for Dr. Barton Warren Evermann, of the United States Bureau of Fisheries.

The following measurements of the type are expressed in hundredths of the length to base of caudal fin: Head, exclusive of opercular flap, 0.38; depth, 0.32; depth of caudal peduncle, 0.145; snout, 0.12; eye, 0.12; interorbital space, 0.06; length of maxillary, 0.21; tip of snout to spinous dorsal, 0.42; tip of snout to soft dorsal, 0.62; tip of snout to anal, 0.66; length first dorsal spine, 0.09; second, 0.13; sixth, 0.08; seventh, 0.12; length of first anal spine, 0.02; second, 0.11; length of pectoral, 0.28; length of ventral, 0.22.

CHANOS CHANOS (Forskål.)

A singular-looking fish, extraordinarily short and deep. It is apparently an abnormal dwarf or hunchback specimen of this species. It has a much shorter and deeper head and body than is usual and the scales are narrower, but in other respects it differs only slightly from the ordinary type. The head is contained $3\frac{2}{3}$ times in the length to the base of caudal; depth, $2\frac{1}{2}$; depth of caudal peduncle, $7\frac{1}{2}$; length of caudal, $1\frac{1}{3}$; pectoral, 4; ventral, 5; eye, 3 in head; interorbital space, $2\frac{1}{3}$; snout, $3\frac{1}{2}$; number of dorsal rays, 12; anal, 9; scales in lateral line, 76; in series between ventral and dorsal, 26; between occiput and base of dorsal, 21. A normal example measures as follows: Head, 4 in length; depth, $4\frac{1}{4}$; depth of caudal peduncle, 11; length of caudal, 3; pectoral, $6\frac{1}{4}$; ventral, $7\frac{3}{8}$; eye, 4 in head; interorbital space, $3\frac{1}{4}$; snout, $3\frac{3}{4}$; number of dorsal rays, 12; anal, 9; scales, 80-26-38.

SYNODUS VARIUS (Lacépède).

An example remarkable for its size, 350 mm. long; differs in no way from smaller specimens.

SARDA CHILENSIS (Cuvier and Valenciennes).

A specimen about 600 mm. long, belongs without doubt to this species. The head is contained $3\frac{1}{2}$ times in the length; the maxillary extends to a vertical through posterior edge of orbit. There are six dark oblique stripes on the body, the uppermost and lower ones being indistinct. Dorsal with eighteen spines. This is the first record of the species from Hawaii. Apparently the identification of the Japanese *Sarda orientalis* and the California *Sarda lineolata* with *Sarda chilensis* from Chile is fully justified.

NOVACULICHTHYS KALLOSOMA (Bleeker).

One specimen, the second recorded from the Hawaiian Islands. Ground color, grass green, as in an example from Samoa.

CALLICANTHUS METOPOSOPHRON Jenkins.

One specimen, 284 mm. long. Head, $4\frac{1}{3}$ in length; depth, $2\frac{3}{5}$; eye, $3\frac{4}{5}$ in head; snout, $1\frac{4}{5}$.

OSTRACION SEBÆ Bleeker.

Ostracion caninum JENKINS, Bull. U. S. Fish Com. for 1899, p. 396, fig. 9, Honolulu.

Five specimens, measuring from 85 to 120 mm. in length; differ in no way from specimens collected by Dr. Jordan in Samoa. Two examples have the ventral surface without spots, while two others have the same area spotted like the back. In one specimen the spots extend inward along the edges of the ventral surface of the carapace. Some have the caudal peduncle with spots only, while others have elongate white bands of irregular shape, no two being alike in this regard. The largest individual has a transverse white band between the eyes.

TROPIDICHTHYS PSEGMA Jordan and Evermann.

One specimen, measuring 118 mm. The dorsal has 12 rays; the snout measures $1\frac{2}{5}$ in head; the dorsal prominence is equally distant between tip of snout and base of last dorsal ray. This is the second specimen recorded, but several others were taken in Samoa by Jordan and Kellogg in 1901.

CHEILODACTYLUS VITTATUS Garrett.

Two specimens, measuring 175 and 245 mm. long, respectively; larger and more deeply colored than any of the few specimens hitherto known.

IRACUNDUS SIGNIFER Jordan and Evermann.

One specimen, 100 mm. long; agrees perfectly with the original description of the species, this being the second specimen known.

DENDROCHIRUS CHLOREUS Jenkins.

One specimen. Dorsal rays, 10; anal, 6; the last ray double in each case.

DENDROCHIRUS BARBERI (Steindachner).

Dendrochirus hudsoni Jordan and Evermann is without doubt identical with *Pterois barberi* Steindachner. An examination of two of the cotypes of the former shows that they differ from the latter species, as described and figured by Steindachner, only in the length of the pectoral, the difference however not being greater than the diameter of the pupil.

CEPHALACANTHUS ORIENTALIS (Cuvier and Valenciennes).

Renewed examination of the common flying gurnard of Hawaii convinces us that this species is the original *orientalis*. The same species occurs in Japan, as also a second species, *Cephalacanthus peterseni* (Nystrom), in which the second free spine of the dorsal is lacking.

ANTENNARIUS COMMERSONI Lacépède.

Two specimens, typical in character.